

REMARKS

Applicant respectfully requests reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Claims 22-33, 35-38, 42 and 52 are currently pending in the application.

I. Claim Rejections under 35 U.S.C. § 103

A. Claims 22-27, 32, 36-38, 42, 52 and 53 stand rejected under 35 U.S.C. 103(a) as unpatentable over Ohkura et al. (U.S. Patent No. 6,610,463).

B. Claim 28 stand rejected under 35 U.S.C. 103(a) as unpatentable over Ohkura et al. in view of Zhang et al. (U.S. Patent No. 6,709,929).

C. Claims 29 and 30 stand rejected under 35 U.S.C. 103(a) as unpatentable over Ohkura et al. in view of Iwasaki et al. (U.S. Patent No. 6,278,231).

D. Claims 31 and 33 stand rejected under 35 U.S.C. 103(a) as unpatentable over Ohkura et al. in view of Iwasaki et al. (U.S. Patent No. 6,278,231).

E. Claim 35 stand rejected under 35 U.S.C. 103(a) as unpatentable over Ohkura et al. in view of Sekinger et al. (U.S. Patent No. 5,975,976).

Section I(a): Rejection A under section 103

The Office Action cites Ohkura as the primary reference in rejecting the claims to the present method of making a nanopore array. The Office Action alleges that Ohkura discloses a “‘recess-projection pattern’ with pore intervals presupposed from the process conditions,” and that the ‘recess-projection pattern’ of Ohkura may be, “processed by pore-widening...to increase the diameter of the pores as desired.” Office Action at page 3, second paragraph. However, Ohkura fails to suggest making a nanopore array according to the presently claimed method. The deficiency of Ohkura is evidenced by the fact that the nanopore array produced

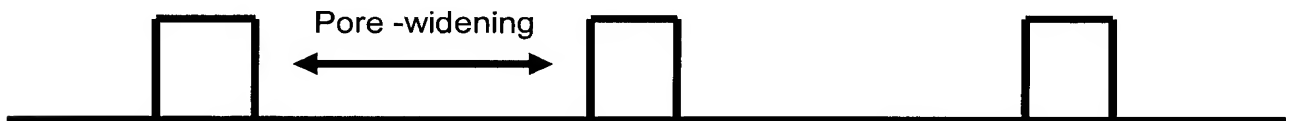
by Ohkura is neither identical nor equivalent to the nanopore array produced by the currently claimed method.

To better understand and clearly illustrate the differences between Ohkura and the presently claimed invention, a series of schematic drawings are presented below. The ‘recess-projection pattern’ array of Ohkura is formed by a single anodizing step to form pores followed by optional etching with an acid to increase the diameter of the pores (i.e. ‘pore-widening’). Ohkura at column 9, lines 18, 22. In contrast, the presently claimed method recites two anodizing steps, which form two separate pores. In the presently claimed method, a first anodizing step forms a macropore, and the second anodizing step forms a nanopore array within the macropores. The illustrations below clearly demonstrate the differences between the array of Ohkura and the array formed according to the presently claimed method.

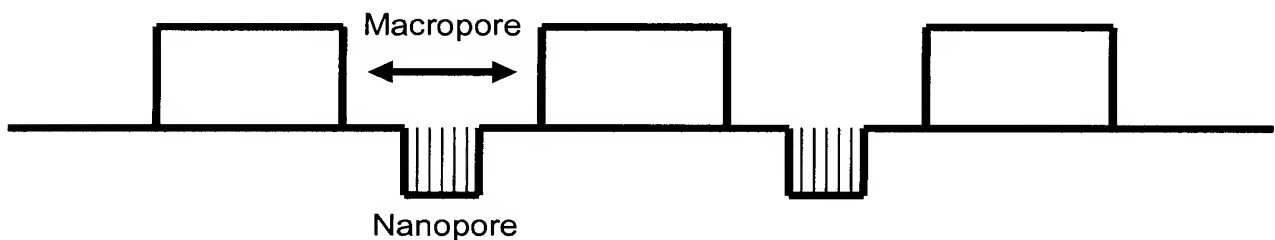
Ohkura Nanopore Array:



Ohkura Nanopore Array following pore-widening:



Presently claimed Nanopore Array:



The Office Action alleges also that the array of Ohkura can be made, “by anodically oxidizing the aluminum using different voltages in order to control the intervals between the pores.” Office Action at page 3, third paragraph. This argument is inapposite to the presently claimed invention, since Ohkura discloses that different voltages are used alternatively, not sequentially in two anodizing steps. Even supposing for the sake of argument that Ohkura discloses varying the voltage during the anodizing process, Ohkura discloses widened pores, but does not disclose anodizing to form i) a macropore and ii) an array of nano-pores within a macro pore. The disclosure of Ohkura is, thus, doubly deficient for failing to disclose the two anodizing steps of the presently claimed method, as well as, the structure of the nanopore array that is formed a result of following the presently claimed method.

The Office Action further errs for two reasons in stating that, “the material having a nanopore array located within macropores would be inherent in Ohkura when different conditions are used.” Office action at page 4, first paragraph. According to the MPEP § 2112(III), “A rejection under 35 U.S.C. 102/103 can be made when the prior art product seems to be identical except that the prior art is silent as to an inherent characteristic.” The nanopore array of Ohkura and the presently claimed method are far from identical as can be seen in the illustrations provided. Again, Ohkura discloses pore-widening by etching, while the presently claimed method teaches forming a nanopore array within a macropore using two anodization steps.

Secondly, the MPEP requires that,

"To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.' " In re Robertson, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (emphasis added)

MPEP § 2112(IV). The Office Action simply makes a conclusory statement that the presently claimed method is inherent in the disclosure of Ohkura, and does not provide sufficient argumentation or support for such a statement. There is no showing that the nanopores inside macropores would necessarily occur even if two anodization steps at different voltages were used by Ohkura. Failing to provide the required rationale or evidence to show inherency, the Office Action fails to demonstrate that Ohkura renders obvious the presently claimed method.

The Office Action finally states at page 10, lines 7-10, that the scope of claim 22 is overly broad and can encompass numerous parameters. The Office Action particular mentions that there is no differentiation between the first and second conditions and that a broad interpretation of the conditions would cover such condition as the solution used in the anodizing step. Office Action page 11, lines 4-8. Even if the interpretation of the Office Action is correct, the presently claimed method is limited to forming the claimed structure. In other words, a macropore is formed under one anodization condition(s), and an array of nanopores are formed within the macropore under the second anodization condition(s). The present claim limitations, therefore, sufficiently limit the scope of the presently claimed method to cover that which was not disclosed in Ohkura at the time of filing.

Section I(b): Rejections B - E under section 103

Rejections B - E are all directed to claims depending, either directly or indirectly, from claim 22, and Ohkura is used as the primary reference in all of the rejections. Ohkura, however, fails to suggest the method of claim 22, as discussed in detail in Section I(a). The secondary references are cited merely in an effort to show features of the dependent claims and do not remedy the deficiencies of Ohkura. Because secondary references do not teach or suggest the claimed invention and the secondary references do not remedy Ohkura's deficiencies, rejections B - E are untenable for at least the same reasons as set forth in Section I(a).

For at least these reasons, Applicant respectfully requests reconsideration and withdrawal of this ground of rejection.

CONCLUSION

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

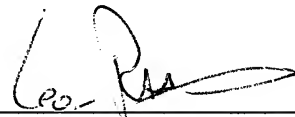
The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing or a credit card payment form being unsigned, providing incorrect information resulting in a rejected credit card transaction, or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

Date 2/27/09

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By


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